Inverse relationship between total testosterone and anti-oxidized low density lipoprotein antibody levels in ageing males.

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Accumulating evidence indicates the involvement of sex hormones in atherogenesis. Endogenous testosterone is inversely related to the majority of risk factors for atherosclerosis and is known to be a potent immunomodulator. Recently, autoantibodies to oxidized LDL (anti-oxLDL Ab) were shown to predict carotid and coronary atherosclerosis. The aim of this study was to investigate the relationship between these antibodies and testosterone level in ageing males. The study group comprised 65 males over 50 years old (42 with coronary artery disease). Serum anti-oxLDL Ab titer was measured by enzyme-linked immunoassay and total serum testosterone by radioimmunoassay. A significant inverse correlation was found between serum anti-oxLDL Ab titer and testosterone concentration (r=-0.346, P=0.0047). Alteration in serum anti-oxLDL Ab titres showed no correlation to classical cardiovascular risk factors, e.g. body mass index, waist/hip ratio, smoking, total cholesterol, triglycerides, HDL-cholesterol, LDL-cholesterol. In multiple regression analysis only testosterone level was independently associated with anti-oxLDL Ab. These data suggest that a fall of testosterone concentration in ageing men can influence either oxidative modification of LDL or the immune response to these lipoproteins which may be important in the pathogenesis of atherosclerosis.

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